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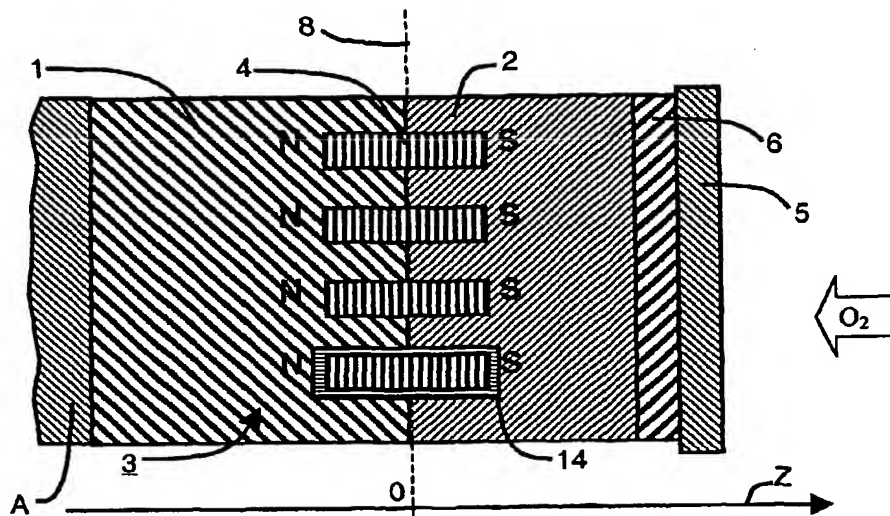
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[Suite sur la page suivante]

(54) Title: FUEL CELL COMPRISING A MAGNETIC CATHODE WITH STATIC PUMPING

(54) Titre : Pile A combustible comportant une cathode magnétique à pompage statique



(57) Abstract: The invention relates to a fuel cell which generates electric power from oxygen and hydronium ions. The inventive fuel cell consists of an anode (A), a magnetic cathode comprising an active layer (2) and a proton electrolyte (1) which is disposed between the anode and the cathode. Moreover, the invention also comprises a network (3) of permanent magnets (4) which are intended to increase the oxygen diffusion in the active layer. The centres of the magnets (4) in the network of permanent magnets are preferably distributed two-dimensionally in a plane that is disposed at the interface between the electrolyte (1) and the active layer (2), the magnets being magnetised parallel to the axis perpendicular to said plane. In this way, all of the poles of one polarity (S) are surrounded by the active layer (2), all of the poles of opposite polarity (N) being surrounded by the electrolyte (1).

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## Abstract

### 5      **Fuel cell comprising a magnetic cathode with static pumping**

The fuel cell, generating electric power from oxygen and hydronium ions and comprising an anode (A), a magnetic cathode, comprising an active layer (2), and a proton electrolyte (1) between the anode and the cathode, comprises a  
10 network (3) of permanent magnets (4) designed to increase the diffusion of oxygen in the active layer. The centers of the magnets (4) of the network (3) of permanent magnets are preferably arranged with a two-dimensional distribution in a plane arranged at the interface between the electrolyte (1) and the active  
15 layer (2), the magnets being magnetized in parallel manner along the axis perpendicular to this plane. In this way, all the poles of one polarity (S) are surrounded by the active layer (2), all the poles of opposite polarity (N) being surrounded by the electrolyte (1).

(Figure 1)